

REMARKS

This amendment is responsive to the Office Action mailed January 26, 2007 in connection with the above-identified patent application. Detailed arguments in support of patentability of claims 2-38, 40-46 and 144 are presented, and re-examination is respectfully requested. No new matter has been added.

Allowable Subject Matter

Claims 24-38, 40 and 144 stand allowed.

The Examiner gave the following statement of reasons for the indication of allowable subject matter: the prior art does not teach a sealed light emitting cylindrical chamber concentric with the path and between the conductive electrode sleeve and the dielectric sleeve.

35 U.S.C. § 112 Rejections

Claims 13-21, 45, 141 and 142 each recites the limitation "gap width". The Examiner stated that there is not sufficient antecedent basis for this limitation in the claims. Claims 141 and 142 have been cancelled. Claims 13-21 and 45 have each been amended to recite that the passage "has a width in the range of. . .".

Referring to page 21 of the present specification, the width of the chamber forms a discharge gap within the chamber which has a width in the range of 0.2 – 6.0 mms. Thus, no new matter has been added.

35 U.S.C. § 103(a) Rejections

Claims 1-3, 7-23, 41, 44-46, 135 and 140-142 were rejected under 35 U.S.C. 103(a) as being unpatentable over Chiou et al. (U.S. Patent No. 6,700,093) in view of Penfold et al. (U.S. Patent No. 4,031,424).

Chiou et al. were deemed to disclose a dielectric discharge apparatus for the removal of perfluorocompound having a housing, a first and second dielectric tube and at least one electrode disposed in the housing. Cooling gas passages are formed around the first dielectric tube and the housing and another around the second dielectric

tube. The Examiner acknowledged that the specific values of voltage, and the use of a wire or gap dimension are not taught by Chiou et al.

Penfold et al. were deemed to disclose a discharge apparatus for cleaning and/or coating a wire which creates a stable and uniform plasma. A power supply is used to form plasma. Plasma is formed near a cylindrical cathode sheath and are used for cleaning. Gap sizes are deemed disclosed by Penfold et al. are that the diameter may be 1/10 to 6 inches (approximately 0.25 to 15 cm.) and voltages may range from a relatively low voltage to several thousand volts, that is, about 500 to 3,000 volts.

The Examiner stated that it would have been obvious to use a wire substrate, measure voltage and gap parameters, as taught by Penfold et al. in the Chiou et al. system. While the applicant maintains that it would not have been obvious to use measure voltage and gap parameters in Chiou et al., claims 1, 135 and 140-142 have been cancelled.

Claims 2, 3 and 7-23 were previously amended to depend from claim 24. Since claim 24 has been deemed allowed, claims 2, 3 and 7-23 dependent thereon are also in condition for allowance.

Claims 41, 44 and 46 were previously amended to depend from claim 40 which has been allowed and also are in condition for allowance.

Claims 4-6, 42 and 43 were rejected under 35 U.S.C. 103(a) as being unpatentable over Chiou et al. and Penfold et al. and further in view of Stava (U.S. Patent No. 6,365,864).

The Examiner acknowledged that Chiou et al. and Penfold et al. do not teach frequency values. Stava was deemed to disclose a wire cleaning apparatus in which the wire is within a tunnel and tube assembly and a power supply generates a frequency of 1-3 kHz and 100 to 300 kHz. Plasma is created within the tubing assembly and gas is also used.

The Examiner concluded that it would have been obvious to one of ordinary skill in the art at the time of the invention to use a frequency of 1-3 or 100-300 kHz as taught by Stava in the Chiou et al. and Penfold et al. system.

Claims 4-6 were previously amended to depend from allowed claim 24, and claims 42 and 43 were previously amended to depend from allowed claim 40, and are in condition for allowance.

Claim 143 was rejected under 35 U.S.C. 103(a) as being unpatentable over Chiou et al. and Penfold et al. as stated in the above paragraph and further in view of Nakamura et al. (U.S. Patent No. 6,489,585).

Chiou et al. and Penfold et al. were acknowledged to not teach a dielectric barrier discharge plasma. Nakamura et al. were deemed to disclose the dielectric plasma of a gas, which is used to clean substrates.

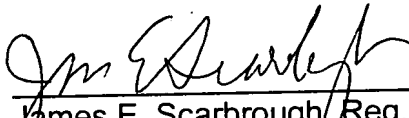
The Examiner concluded that it would have been obvious to one of ordinary skill in the art at the time of the invention to use a dielectric barrier discharge plasma of a gas taught by Nakamura et al. in the Chiou et al. and Penfold et al. system because it is a specific type of cleaning gas. Claim 143 has been cancelled.

CONCLUSION

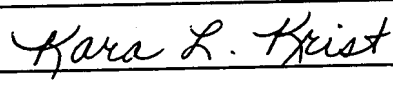
For the reasons detailed above, it is respectfully submitted all claims remaining in the application (Claims 2-38, 40-46 and 144) are now in condition for allowance.

Respectfully submitted,

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